

Pocomoke Lab Status

AMSAT Space Symposium
Pittsburgh, PA
October 27, 2007
Robert Davis, KF4KSS
AMSAT Lab Manager

An idea...

- The Memorandum of Understanding between AMSAT and HISS resulted in agreement of HISS to host AMSAT Spacecraft Integration Lab in Pocomoke, MD.
- HISS is affiliated with the University of Maryland Eastern Shore (UMES)



Hawk Institute for Space Sciences

Flight Log

November / December 2006

UMES & Hawk Institute Sign Agreement with AMSAT-NA to Build Satellite Projects on Maryland's Eastern Shore

The University of Maryland Eastern Shore community welcomes AMSAT-NA to the Eastern Shore as the two groups agree to work jointly on satellite and related technology projects in the region. The Hawk Institute for Space Sciences (HISS), through its parent company Maryland Hawk, has signed a Memorandum of Understanding with AMSAT-NA to host AMSAT spacecraft integration lab at the HISS facilities located in the Mid-Atlantic Institute for Space and Technology (MIST) building in Pocomoke City, Maryland.

AMSAT-NA, formally known as the Radio Amateur Satellite Corp, is a non-profit 501(c)(3) volunteer organization whose mission is to design, build and operate experimental satellites carrying amateur radio payloads and promote space education. AMSAT has designed and built over 30 satellites carrying amateur radio equipment since its founding in 1969.

The agreement with Maryland Hawk gives AMSAT-NA essentially no-cost access to the HISS facility in return for sharing its equipment and ideas with HISS. The agreement also allows for AMSAT's portable clean room and other resources to be located at the HISS facility. Hawk and UMES will provide volunteer labor for the AMSAT Eagle satellite project, and AMSAT will share their spacecraft technology with the University community.

UMES has signed an independent Memorandum of Understanding with AMSAT-NA to work collaboratively to identify opportunities to develop appropriate satellite and related technology projects, as well as working with UMES students and faculty to enhance hands-on studies and dissertation research. AMSAT-NA scientists and engineers may receive Adjunct status at UMES.

Jerry Redden, Worcester County Director of Economic Development, says "this agreement is a win-win for everyone involved."

"It opens doors to the aerospace for our native sons and daughters. We've been working with area high school and college students to excite them in science, technology, engineering and math, and this partnership provides opportunities to students on the Eastern Shore to enter the knowledge-based economy," says Redden.

AMSAT-NA includes the United States and Canada, and other AMSAT organizations exist throughout the world. Membership in AMSAT-NA is approximately 4,000 individuals.

See <http://www.amsat.org> for more information about AMSAT-NA. If you would like to be a volunteer on AMSAT-NA's next satellite project, named Eagle, contact Bob Davis at rdavis@mdhawk.org.



University Officials Meet with AMSAT-NA Directors

Front row (L to R): Rick Hamblin, President of AMSAT-NA and member of the AMSAT-NA Board of Directors; Dr. Thelma Thompson, President, University of Maryland Eastern Shore; and Quentin R. Johnson, Executive Assistant to the UMES President. Back row (L to R): Dick Jamison, volunteer AMSAT-NA engineer; Bob McGwier, Vice President of Engineering for AMSAT-NA and member of the AMSAT-NA Board of Directors; Dr. Ronald G. Forsythe, Vice President for Planning, Assessment, Technology and Commercialization for UMES; Ron Setton, Executive Director of Hawk Institute for Space Sciences; Tom Clark, member of AMSAT-NA Board of Directors; and Robert Davis, engineer with HISS and volunteer AMSAT-NA engineer.

Hawk Institute for Space Sciences is a Division of the Maryland Hawk Corporation, an affiliated 501 (c) (3) non-profit organization of the University of Maryland Eastern Shore, a Historically Black 1890 Land-Grant University.

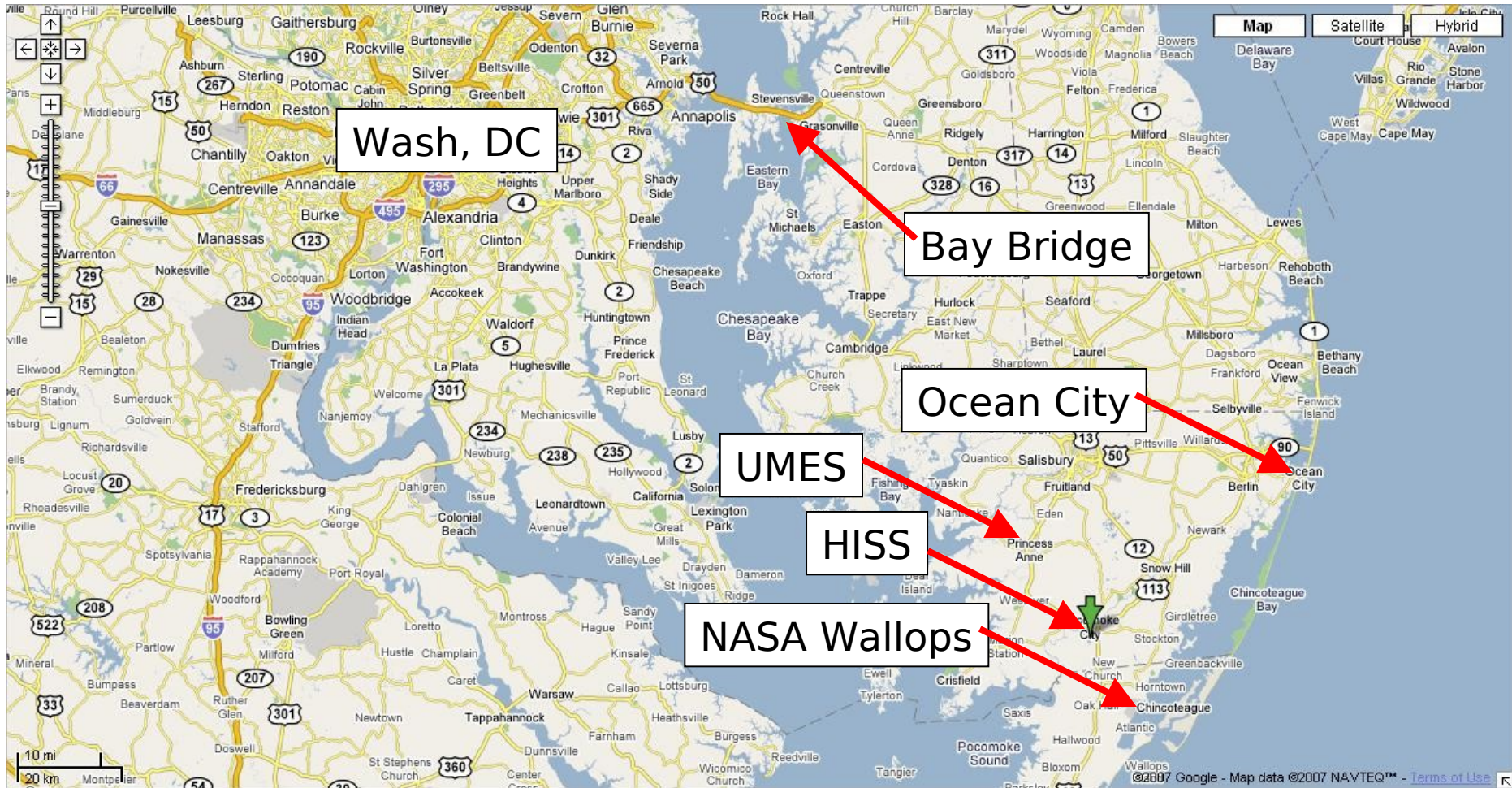
Christmas & New Year's 2006

- AMSAT lab equipment was in rental storage units near Orlando airport under supervision of Lou McFadin W5DID
- Cleanroom airhandlers were in storage near Kennedy Space Center under supervision of Bob Crabbs of Florida Space Institute
- Bob McGwier N4HY, Drew Glasbrenner KO4MA and I arrived in Orlando to pack trucks destined for Maryland
- Lou McFadin W5DID and Stan Wood WA4NFY helped pack the lab hardware (and we left a mess for them)
- 2 rental trucks were needed for cleanroom airhandlers
- 1 more rental truck needed for lab equipment

VA Bridge to Eastern Shore of MD



Destination: Pocomoke City, MD



Bunch of volunteers helped on the other end



Our AMSAT President sweating!



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First Inventory... In the Dark



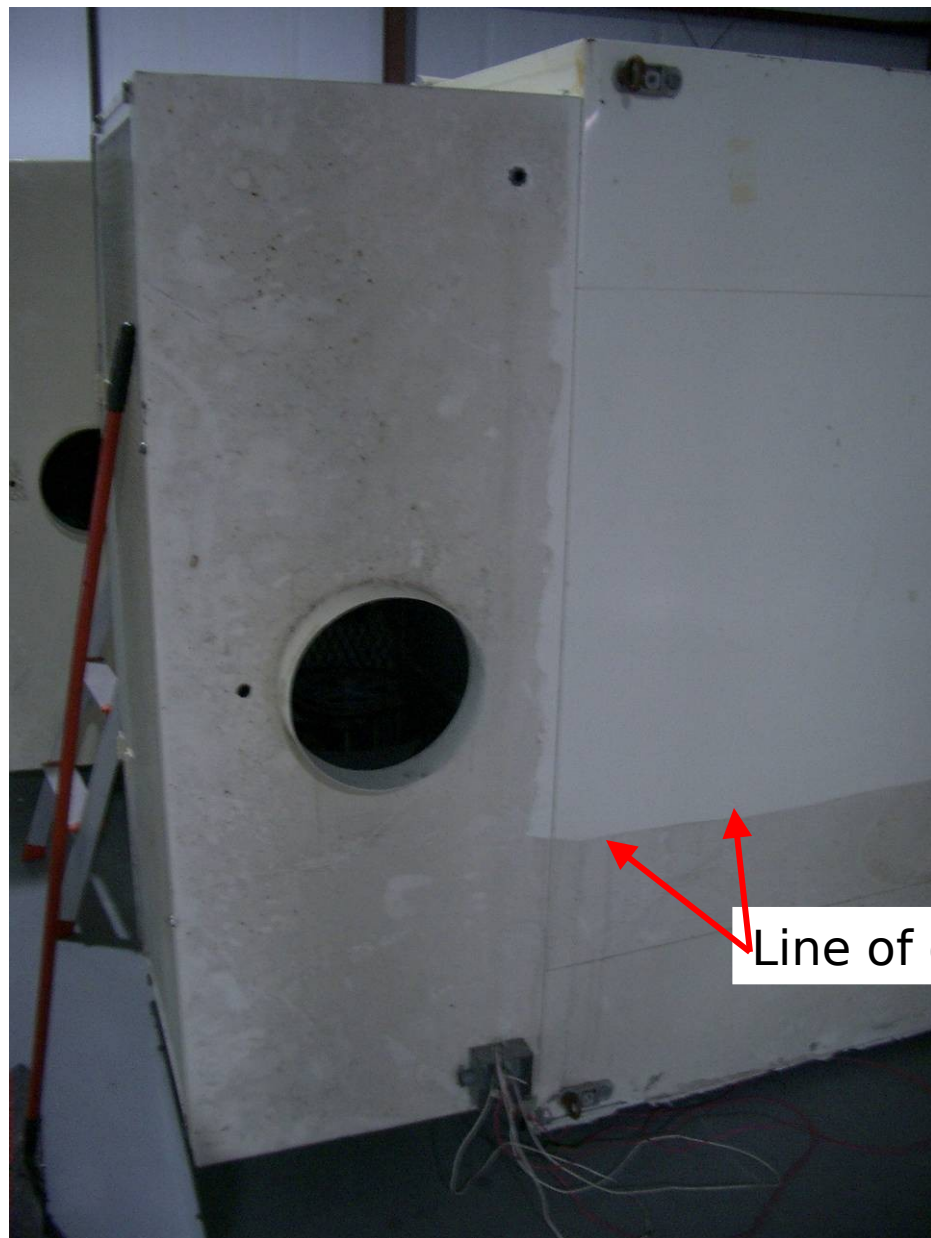
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Inventory, Organizing, Cleaning

- For six months, volunteers were cleaning the cleanroom parts, organizing boxes and assisting with inventory.
- AMSAT property was stored in Pocomoke warehouse where HISS was constructing lab.
- Crane assembled for potential handling of cleanroom airhandlers
- Various tables & MGSE assembled



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Line of dirt





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Cleanroom Assembly

- Cleanroom airhandlers were assembled
- Some perimeter channel was damaged & removed.
 - Those areas have been stripped and replacement is to be welded next week.
- Recent resolution with county Fire Marshal about fire codes and requirement for sprinklers



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AMSAT volunteers

- Most Saturdays have been AMSAT volunteer days at Pocomoke.
- More than 12 others have volunteered at least once (not including first day of unpacking trucks)
- Email list has 43 interested recipients.
- Notices to AMSAT-DC list also

1/2 scale Eagle for Dayton Hamvention and Space Day at National Air & Space Museum



Small Eagle with spare solar cells for fundraising auction TODAY!



Meanwhile, HISS Lab Construction

- HISS recently completed construction of 7,500 square feet converted warehouse area into office, lab & machine shop.
- Office has been occupied since late spring.
- Lab & machine shop waiting only on sprinkler system of cleanroom before occupancy will be granted.
- Lab & machine shop are “moved in”.



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Red is AMSAT
Blue is MIST
Green is Fritz/Claude

Construction in the Warehouse



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2007 Plans

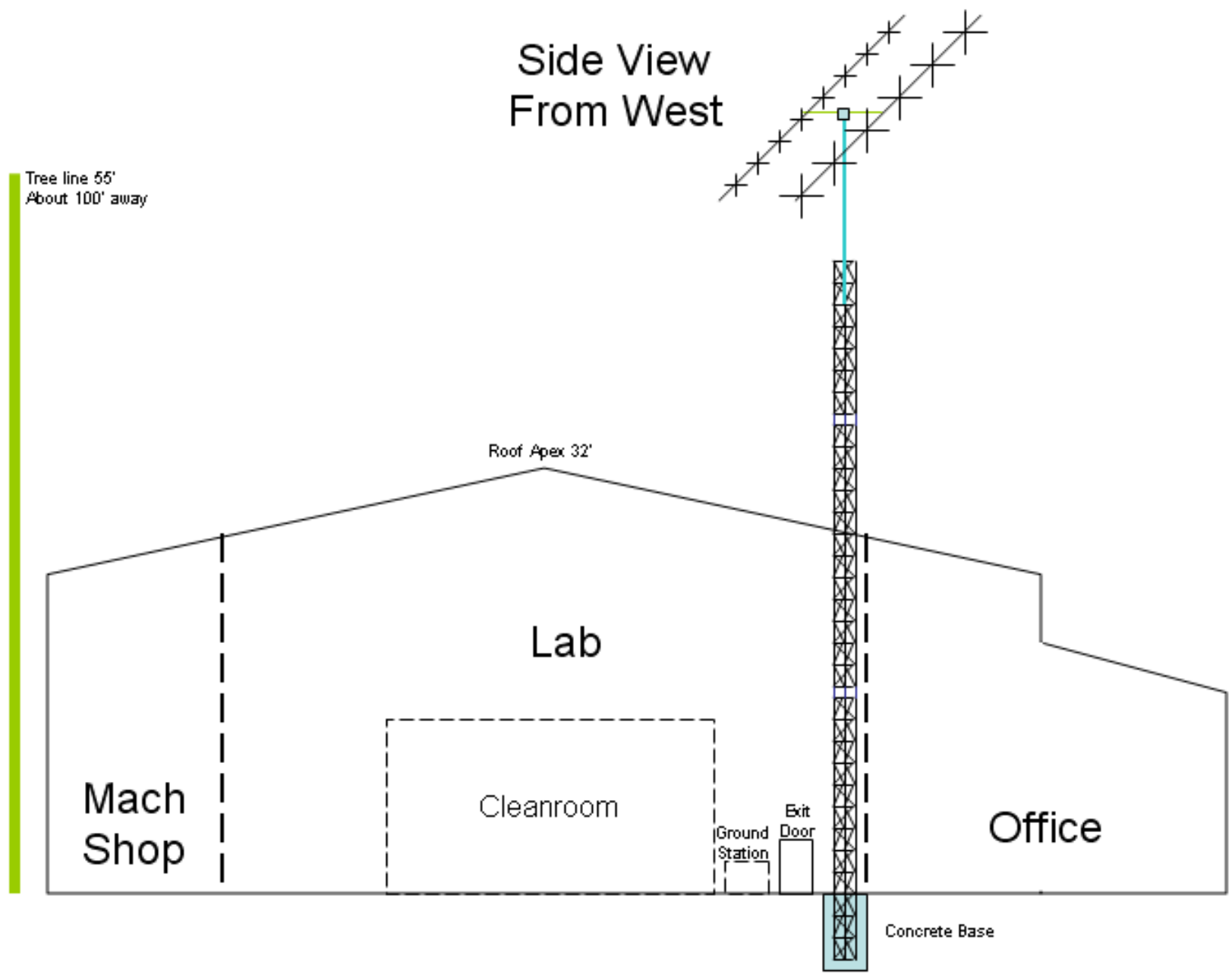
- Cleanroom complete by end of 2007
- Sprinkler system installed & occupancy by end of Nov 2007
- APRS station running by end of Nov 2007
- Tower plans approved by landlord by end of Nov 2007
- Complete machine shop by end of Dec 2007 (2 mills, lathe, band saw, welder)

2008 Plans

- Complete ground station & tower by end of Feb 2008
- Populate Cleanroom for use
- Support Eagle and other AMSAT projects
- Prototype hardware on HASP student balloon?
- Apply for ARISS contact with neighboring Pocomoke Elementary

Side View From West

Tree line 55'
About 100' away





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Volunteers at Pocomoke Lab!

- Cleanroom completion
- Tower, ground station, APRS
- Lab will be shifting from “moving in” mentality to Eagle and other AMSAT projects
- Eagle modules and spacecraft frame
- AMSAT always needs donations of *time*, *talent* and *treasure*
- 2.5 hours southeast of Wash, DC
- 40 minutes from Salisbury airport
- Email KF4KSS@amsat.org to volunteer at lab